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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,327	05/01/2001	Akiyoshi Osakada	010601	2251

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EXAMINER

MITCHELL, JAMES M

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/845,327

Applicant(s)

OSAKADA, AKIYOSHI

Examiner

James Mitchell

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me

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 May 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the application filed May 6, 2002.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (6,316,826) in view of Applicant's Admitted Prior Art (APA).
4. Yamamoto (Fig 5,7) discloses a high frequency package (Line 8, Column 1), a first metal plate (4) with a fixing cut out (Lines 24-25, Column 6) and having a hollowed portion at the center of said plate (cavity region of Item 4 shown in Fig.7), a rectangular second metal plate (2) fitted in the hollowed portion of said first plate jointed end to end, with a ceramic frame (5) wherein the cavity defined by second metal plate and ceramic frame has a semiconductor mounting portion on bottom of said cavity, said first metal of Cu-W (Lines 8-9, Column 7) inherently in close thermal expansion with said ceramic (as admitted by applicant Page 2, Lines 3-5), and said second metal member of high thermal conductivity possessing an elevated degree of heat sinking characteristics (Lines 20-23, Column 1).
5. Yamamoto does not appear to show fixing cutouts defined at both ends of said metal plates, the thickness of said first and second plates being substantially equal or that the plates are jointed at substantially the same level.

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6. However, it would have been obvious to one of ordinary skill to form cutouts at the ends of the metal plate in order to fix ceramic packages by screws as is shown by the admitted prior art (Fig. 4A; Page 2, Lines 16-20).

7. With respect to claim 1, the applicant's claim that "the plate is brazed" is a product by process.

8. Although the prior art does not appear to explicitly teach the intended use, the statement of intended use does not result in a structural difference between the claimed apparatus. Because the apparatus of the prior art is inherently capable of being used for the intended use, the statement of intended use does not patentably distinguish the claimed apparatus.

9. "Even though product -by- process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)

10. A "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and

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that an old or obvious product, whether claimed in "*product by process*" claims or not.

Note that Applicant has the burden of proof in such cases, as the above case law makes clear.

11. Further, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to change the thicknesses of the metal plates and for the plates to be jointed at the same level because applicant has not disclosed that the dimensions are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears *prima facie* that the process would possess utility using another dimension. Indeed, it has been held that mere dimensional limitations are *prima facie* obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

12. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto and the admitted prior art (APA) as applied to claim 1 and further in view of Berstedt et al. (U.S 2001/0004132).

13. The prior art does not disclose the dielectric ceramic being across the first and second metal plates.

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14. However, Berstedt utilizes a dielectric frame on a first and a second metal plate (Fig. a-c; Lines 9-12, Paragraph 0025).

15. It would have been obvious to modify the frame of Yamamoto and the admitted prior art such that the frame is attached to the first and second metal plate in order to reduce the risk of harmful stress (Page. 3, Lft.Lines 3-6) associated with thermal expansion.

16. With respect to claim 2, the applicant's claim that "the plate is brazed " is a product by process. See paragraphs 8 and 9.

17. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (6,316,826) and the admitted prior art (APA) as applied to claim 1 and further in view of Nebe (U.S 5,167,869).

18. The prior art further discloses in Yamamoto that the first metal can be Kovar (Line 5, Column 7).

19. Neither Yamamoto nor the admitted prior art disclose that the second metal is comprised of Cu-Mo-Cu alloy, however Nebe utilizes a Cu-Mo-Cu metal layer (Line 64, Column 6).

20. It would have been obvious to one of ordinary skill to form the second metal plate out of Cu-Mo-Cu alloy, since it is a functionally equivalent heat dissipation material in the formation of heat sinks as shown by Nebe (Lines 64-65, Column 6).

Response to Arguments

21. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mitchell whose telephone number is (703) 305-0244. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-4940. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3230 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



jmm

June 6, 2002.

DAVID E. GRAYBILL
PRIMARY EXAMINER

